

Archives of Biochemistry and Biophysics

VOLUME 271

1989



ACADEMIC PRESS, INC.

Harcourt Brace Jovanovich, Publishers

San Diego New York Boston

London Sydney Tokyo Toronto

Copyright © 1989 by Academic Press, Inc.
All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (27 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U. S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1989 articles are as shown on the article title pages; if no fee code appears on the title page, the copy fee is the same as for current articles.

0003-9861/89 \$3.00

MADE IN THE UNITED STATES OF AMERICA

CONTENTS OF VOLUME 271

NUMBER 1, MAY 15, 1989

COMMUNICATION

- Modification of an Essential Arginine Residue Associated with the Plasma Membrane ATPase of Red Beet (*Beta vulgaris* L.) Storage Tissue
Lynne H. Gildensoph and Donald P. Briskin 254

BIOLOGICAL OXIDATIONS AND BIOENERGETICS

- Oxidation of NADH by Vanadium Compounds in the Presence of Thiols
Randal J. Keller, Roger A. Coulombe, Raghubir P. Sharma, Thomas A. Grover, and Lawrence H. Piette 40
- The Oxidation of the Calcium Probe Quin2 and Its Analogs by Prostaglandin H Synthase
Jolanda Van Der Zee, Ronald P. Mason, and Thomas E. Eling 64
- Studies of Ascorbate-Dependent, Iron-Catalyzed Lipid Peroxidation
Dennis M. Miller and Steven D. Aust 113
- Characterization of a Superoxide Dismutase Mimic Prepared from Desferrioxamine and MnO₂
Wayne F. Beyer, Jr., and Irwin Fridovich 149
- Free Radical Generation during δ -Aminolevulinic Acid Autoxidation: Induction by Hemoglobin and Connections with Porphyrinopathies
Hugo P. Monteiro, Dulcinea S. P. Abdalla, Ohara Augusto, and Eteivino J. H. Bechara 206
- 1-Methyl-4-phenyl-1,2,3,6-tetrahydropyridine Inhibits Proton Motive Force in Energized Liver Mitochondria
Yogendra Singh, Rakesh Bhatnagar, Gurmeh S. Sidhu, Janendra K. Batra, and Gopal Krishna 217

ENZYME MECHANISMS AND METABOLISM AND COENZYMES

- A Kinetic Study of the Effects of Phosphate and Organic Phosphates on the Activity of Phosphoenolpyruvate Carboxylase from *Crassula argentea*
Christopher R. Meyer, Pierre Rustin, and Randolph T. Wedding 84
- Specificity of S-Adenosyl-L-methionine in the Inactivation and the Labeling of 1-Aminocyclopropane-1-carboxylate Synthase Isolated from Tomato Fruits
Shigeru Satoh and Shang Fa Yang 107
- NAD-Linked, GSH- and Factor-Independent Aldehyde Dehydrogenase of the Methylotrophic Bacterium, *Hyphomicrobium* X
Paulus A. Poels and Johannis A. Duine 240

GLYCOPROTEINS AND GLYCOLIPIDS

- Carbohydrate-Specific Monoclonal Antibodies Bind to Human Granulocytes and Stimulate Antibody-Dependent Cellular Cytotoxicity
P. F. Spitalnik, S. L. Spitalnik, J. M. Danley, A. F. Lopez, M. A. Vadas, C. I. Civin, and V. Ginsburg 168

LIPIDS AND LIPID MEDIATORS: METABOLISM, REGULATION, AND FUNCTION

- Regulation of Polyphosphoinositide Synthesis in Cardiac Membranes
Eugene Quist, Nimman Satumtira, and Patricia Powell 21
- 12S,19- and 12S,20-Dihydroxyeicosanoids: Novel 12S-Hydroxy-5,8-*cis*-10-*trans*-14-*cis*-eicosatetraenoic Acid Metabolites Formed by Hydroxylation and Reduction in Murine Lymphocytes
Roberta M. Danilowicz, Gregory Reed, Dori R. Germolec, Michael I. Luster, Kenneth B. Tomer, John F. Curtis, Tetsuo Higuchi, and Thomas E. Eling 72
- Rapid Hydrolysis of Diacylglycerol Formed during Phosphatidate Phosphatase Assay by Lipase Activities in Rat Liver Cytosol and Microsomes
Hayao Ide and Yasuo Nakazawa 177

MEMBRANE TRANSPORT AND INTRACELLULAR SIGNALS

- Lysosomal Integral Membrane Glycoproteins Are Expressed at High Levels in the Inclusion Bodies of I-Cell Disease Fibroblasts
Ignacio V. Sandoval, Jeff W. Chen, Lydia Yuan, and J. Thomas August 157

MEMBRANES, CELL SURFACES, AND RECEPTORS

- Fusion of Phospholipid Vesicles Mediated by Cytochrome *c*
Seungcheol Lee and Hyounghman Kim 188

MOLECULAR BIOLOGY, GENE EXPRESSION, AND DEVELOPMENTAL BIOCHEMISTRY

- Quantitation of mRNAs Specific for the Mixed-Function Oxidase System in Rat Liver and Extrahepatic Tissues during Development
Daniel L. Simmons and Charles B. Kasper 10

OXYGENASES, MICROSOMES, AND P450 REACTIONS

- The Microsomal Ethanol Oxidizing System Mediates Metabolic Tolerance to Ethanol in Deermice Lacking Alcohol Dehydrogenase
Jeffrey Alderman, Shinzo Kato, and Charles S. Lieber 33
- Mouse Liver P450_{Coh}: Genetic Regulation of the Pyrazole-Inducible Enzyme and Comparison with Other P450 Isoenzymes
Matti A. Lang, Risto Juvonen, Päivi Järvinen, Paavo Honkakoski, and Hannu Raunio 139

PLANT MOLECULAR BIOLOGY, BIOCHEMISTRY, AND PHOTOSYNTHESIS

- Betaine Aldehyde Dehydrogenase from Spinach Leaves: Purification, *in Vitro* Translation of the mRNA, and Regulation by Salinity
Eizabeth A. Weretilnyk and Andrew D. Hanson 56
- Evidence for Function of the Ferredoxin/Thioredoxin System in the Reductive Activation of Target Enzymes of Isolated Intact Chloroplasts
N. A. Crawford, M. Droux, N. S. Kosower, and B. B. Buchanan 223
- The Recombinant Spinach Acyl-Acyl Carrier Protein-I Expressed in *Escherichia coli* Is the 18:1Δ11(*cis*) Thioester
Daniel J. Guerra and John Browse 246

PROTEIN STRUCTURE AND FUNCTION

- Covalent Structure of Collagen: Amino Acid Sequence of Three Cyanogen Bromide-Derived Peptides from Human $\alpha 1(V)$ Collagen Chain
Jerome M. Seyer and Andrew H. Kang 120
- Fluorescent Derivative of Cysteine-10 Reveals Thyroxine-Dependent Conformational Modifications in Human Serum Prealbumin
Gustavo González 200

REGULATION OF METABOLISM AND OF ENZYME ACTION

- Control of Hepatic Gluconeogenesis: Role of Fatty Acid Oxidation
Consuelo González-Manchón, Matilde S. Ayuso, and Roberto Parrilla 1
- Quantitation of Carbon Flow through the Hepatic Folate-Dependent One-Carbon Pool in Rats
Kevin L. Schalinske and Robert D. Steele 49
- Casein Kinase II Activity and Polyamine-Stimulated Protein Phosphorylation of Cytosolic and Plasma Membrane Proteins in Bovine Sperm
Prem S. Chaudhry and Edmund R. Casillas 98
- Effect of Glycerol and Dihydroxyacetone on Hepatic Lipogenesis
Andrés Carmona and R. A. Freedland 130

NUMBER 2, JUNE 1989

BIOLOGICAL OXIDATIONS, BIOENERGETICS, AND P450 REACTIONS

- Acetaminophen Activation by Human Liver Cytochromes P450IIE1 and P450IA2
Judy L. Raucy, Jerome M. Lasker, Charles S. Lieber, and Martin Black 270
- Characterization of a Phenobarbital-Inducible Dog Liver Cytochrome P450 Structurally Related to Rat and Human Enzymes of the P450IIIA (Steroid-Inducible) Gene Subfamily
Paul J. Ciaccio and James R. Halpert 284
- An Electron Spin Resonance Study of Oxyradical Generation in Superoxide Dismutase- and Catalase-Deficient Mutants of *Escherichia coli* K-12
Herb E. Schellhorn, Sovitj Pou, Carmella Moody, and Hosni M. Hassan 323
- Exchange and Shuttling of Electrons by Nitroxide Spin Labels
David O. Nettleton, Philip D. Morse II, and Harold M. Swartz 414
- Phosphorylation of Cytochrome P450: Regulation by Cytochrome b_5
Paul M. Epstein, Mario Curti, Ingela Jansson, Chi-Kuang Huang, and John Schenkman 424
- Effect of Aerobic Growth Conditions on the Soluble Cytochrome Content of the Purple Phototrophic Bacterium *Rhodobacter sphaeroides*: Induction of Cytochrome c_{554}
R. G. Bartsch, R. P. Ambler, T. E. Meyer, and M. A. Cusanovich 433
- Inhibition of Autoxidation of Divicine and Isouramil by the Combination of Superoxide Dismutase and Reduced Glutathione
Christine C. Winterbourn 447
- Benzoyl Peroxide Interaction with Mitochondria: Inhibition of Respiration and Induction of Rapid, Large-Amplitude Swelling
Christopher H. Kennedy, Gary W. Winston, Daniel F. Church, and William A. Pryor 456
- Structural Characterization of the Bovine CYP17 (17 α -Hydroxylase) Gene
C. Ramana Bhasker, Beverly S. Adler, Albert Dee, Maliyakal E. John, Masaaki Kagimoto, Mauricio X. Zuber, Ragnhild Ahlgren, Xiaodong Wang, Evan R. Simpson, and Michael R. Waterman 479

Expression of a Cytochrome c_2 Isozyme Restores Photosynthetic Growth of <i>Rhodobacter sphaeroides</i> Mutants Lacking the Wild-Type Cytochrome c_2 Gene <i>J. Fitch, V. Cannac, T. E. Meyer, M. A. Cusanovich, G. Tollin, J. Van Beeumen, M. A. Rott, and T. J. Donohue</i>	502
Suppression of Male-Specific Cytochrome P450 2c and Its mRNA by 3,4,5,3',4',5'-Hexachlorobiphenyl in Rat Liver Is Not Causally Related to Changes in Serum Testosterone <i>Heather N. Yeowell, David J. Waxman, Gerald A. LeBlanc, Patricia Linko, and Joyce A. Goldstein</i>	508
Mechanism of Function of Dicyclohexylcarbodiimide-Sensitive Na^+/H^+ -Antipporter in <i>Halobacterium halobium</i> : pH Effect <i>Naoyuki Murakami and Tetsuya Konishi</i>	515
Release of Iron from Ferritin by Divicine, Isouramil, Acid-Hydrolyzed Vicine, and Dialuric Acid and Initiation of Lipid Peroxidation <i>Hugo P. Monteiro and Christine C. Winterbourn</i>	536

ENZYME MECHANISMS AND METABOLIC REGULATION

Inactivation of Two-Electron Reduced Medium Chain Acyl-CoA Dehydrogenase by 2-Octynoyl-CoA <i>Jing-Zhi Zhou and Colin Thorpe</i>	261
Uptake, Intracellular Binding, and Excretion of Polyamines during Growth of <i>Neurospora crassa</i> <i>Rowland H. Davis and Janet L. Ristow</i>	315
Purification and Properties of the Cyclic 3',5'-AMP-Binding Protein from the Muscle of the Nematode <i>Ascaris suum</i> <i>Hans Peter Thalhofer, Walter Starz, Günter Daum, Bernd Wurster, Ben G. Harris, and Hans Werner Hofer</i>	471
Origin of <i>p</i> -Aminobenzoic Acid from Chorismic rather than iso-Chorismic Acid in <i>Enterobacter aerogenes</i> and <i>Streptomyces</i> Species <i>Marlene Johanni, Petra Hofmann, and Eckhard Leistner</i>	495
Manipulation of Plasma Membrane Physical State Affects Desaturase Activity in Rat Lymphocytes <i>M. Garcia Zevallos and T. Farkas</i>	546
<i>In Vivo</i> Regulation of Phosphorylation Level and Activity of Phosphofructokinase by Serotonin in <i>Fasciola hepatica</i> <i>Edwin S. Kamemoto, Linda Lan, and Tag E. Mansour</i>	553

GENETIC STRUCTURE AND FUNCTION

Rabbit Microsomal Epoxide Hydrolase: Isolation and Characterization of the Xenobiotic Metabolizing Enzyme cDNA <i>Christopher Hassett, Susan M. Turnblom, Audree DeAngeles, and Curtis J. Omiecinski</i>	380
Expression of Human Plasminogen cDNA in a Baculovirus Vector-Infected Insect Cell System <i>Joann Whitefleet-Smith, Elliot Rosen, James McLinden, Victoria A. Ploplis, Malcolm J. Fraser, James E. Tomlinson, John W. McLean, and Francis J. Castellino</i>	390

GLYCOPROTEINS, GLYCOLIPIDS, AND EXTRACELLULAR MATRICES

Evidence that Aspartic Proteinase Is Involved in the Proteolytic Processing Event of Procathepsin L in Lysosomes <i>Yukio Nishimura, Takahiro Kawabata, Koji Furuno, and Keitaro Kato</i>	400
--	-----

HORMONE STRUCTURE AND FUNCTION

- Expression, Purification, and *in Vivo* Activity of Atrial Natriuretic Factor Prohormone Produced in *Escherichia coli* James K. Gierse, Peter O. Olins, Catherine S. Devine, Jan D. Marlay, Mark G. Obukowicz, Luke H. Mortensen, Ellen G. McMahon, Edward H. Blaine, and Ramnath Seetharam 441

LIPIDS AND LIPID MEDIATORS

- Purification and Kinetic Properties of Lysophosphatidylinositol Acyltransferase from Bovine Heart Muscle Microsomes and Comparison with Lysophosphatidylcholine Acyltransferase Madhu Sanjanwala, Grace Y. Sun, and Ronald A. MacQuarrie 407

MEMBRANE RECEPTORS, TRANSPORT, AND INTRACELLULAR SIGNALS

- Ammonium Ions Enhance Proteolytic Activation of Adenylate Cyclase and Decrease Its Sensitivity to Inhibition by "P"-Site Agonists Siu-Mei Helena Yeung, Ilana Shoshani, Dorothee Stübner, and Roger A. Johnson 332
- Nuclear Uptake of Monoclonal Antibody to a Surface Glycoprotein and Its Effect on Transcription Ewa M. Rakowicz-Szulczynska and Hilary Koprowski 366

PLANT MOLECULAR BIOLOGY, BIOCHEMISTRY, AND PHOTOSYNTHESIS

- S-Adenosyl-L-methionine:*trans*-Caffeoyl-coenzyme A 3-O-Methyltransferase from Elicitor-Treated Parsley Cell Suspension Cultures Anne-Elisabeth Pakusch, Richard E. Kneusel, and Ulrich Matern 488
- Geranyl Pyrophosphate Synthase: Characterization of the Enzyme and Evidence That This Chain-Length Specific Prenyltransferase Is Associated with Monoterpene Biosynthesis in Sage (*Salvia officinalis*) Rodney Croteau and Paul T. Purkett 524

PROTEASES, PROTEIN TURNOVER, AND POST-TRANSLATIONAL PROCESSING

- Studies on the Hyaluronate Binding Properties of Newly Synthesized Proteoglycans Purified from Articular Chondrocyte Cultures John D. Sandy and Anna H. K. Plaas 300
- Thrombin-Induced Platelet Aggregation Involves an Indirect Proteolytic Cleavage of Aggregin by Calpain Rajinder N. Puri, Fengxin Zhou, Harlan Bradford, Chang-Jun Hu, Roberta F. Colman, and Robert W. Colman 346

PROTEIN STRUCTURE AND FUNCTION

- Interaction of Terbium and Calcium with Chicken Cystatin Evelyn T. Bell, John D. B. Featherstone, and J. Ellis Bell 359

AUTHOR INDEX FOR VOLUME 271 560

NOTICE

The Subject Index for Volume 271 will appear in the December 1989 issue as part of a cumulative index for the year 1989.



Digitized by the Internet Archive
in 2026

Instructions to Authors¹

Archives of Biochemistry and Biophysics is an international journal dedicated to the dissemination of fundamental knowledge in all areas of biochemistry and biophysics. **Short Communications** and **regular manuscripts** that contain new and significant information of general interest to workers in these fields are welcome. Sufficient detail must be included to enable others to repeat the work.

Short Communications offer a means of early publication of work of such importance that rapid publication is warranted. They should not exceed 15 double-spaced typed manuscript pages in length (including text, bibliography, tables, and figures). To expedite review and processing of communications, authors may send them directly to an Executive Editor most closely associated with the subject category of the communication. Communications sent to the Editorial Offices of the journal (see below) will be assigned to an Executive Editor.

Manuscripts should be written in clear, concise, and grammatical English and should be submitted in quadruplicate (one original and three photocopies), including four sets of original figures or good quality glossy prints, to:

Archives of Biochemistry and Biophysics
Editorial Office
Seventh Floor
1250 Sixth Avenue
San Diego, California 92101

Failure to receive the required number of copies of the manuscript may delay review. All copies of halftone artwork *must* be glossy prints or originals; photocopies of halftones do not show sufficient detail to be used for the review process. *In the case of rejected manuscripts only one copy of the manuscript will be returned to the author.*

Gene sequences should be simultaneously submitted to a gene databank. Authors of papers describing new structure determinations are requested to submit to the Protein Data Bank all of the structural data required to validate the discussion, including both x-ray amplitudes and phases and the advised atomic coordinates.

Original papers only will be considered. ***Manuscripts are accepted for review with the understanding that the same work has not been published, that it is not under consideration for publication elsewhere, and that its submission for publication has been approved by all of the authors and by the institution where the work was carried out. It is the responsibility of the corresponding author to obtain the agreement of all the coauthors of the manuscript prior to its submission to the journal.*** Abstracts of oral or poster presentations are not considered to constitute previous publication. Presentation of material in preliminary communications normally will not preclude publication of a full paper in *Archives*, provided that the full paper contains additional information that justifies its publication and does not repeat the presentation of the same data that supported the preliminary communication. The manuscript should be accompanied by copies of all preliminary communications and of all relevant manuscripts that are in press or under editorial consideration by another journal. Authors must verify the wording of any cited personal communication with the persons who supplied the information and obtain approval for the use of their names in connection with the quoted information or for the citation of unpublished work; written evidence of such approval should accompany the manuscript. All material published in *Archives* represents the opinions of the authors and should not be construed to reflect the opinions of the Editors or the Publisher.

Authors should suggest competent reviewers in their field and may also suggest individuals whom they wish to have excluded from the review process. The corresponding author will receive a decision letter from the Executive Editor. Revised manuscripts and correspondence concerning such manuscripts should be sent to the Executive Editor at the address indicated on the decision letter. Revised manuscripts should be accompanied by a copy of the unrevised version.

Many acceptable papers require minor revision or condensation. It is in the mutual interest of both the authors and the journal that amended manuscripts be returned promptly. A revised paper will retain its original date of receipt only if it is received by the Executive Editor within 2 months of the date of return to the author.

Authors submitting a manuscript do so on the understanding that if it is accepted for publication, copyright in the article, including the right to reproduce the article in all forms and media, shall be assigned exclusively to the Publisher. The Publisher will not refuse any reasonable request by the author for permission to reproduce any of his or her contributions to the journal.

Communications offer a means of early publication of work of such importance that rapid release is warranted. Normally they should not exceed 15 manuscript pages in length (including text, bibliography, tables, and figures). The review and printing of such papers will be expedited to provide earliest possible publication.

Form of Manuscript. Manuscripts should be typewritten and double-spaced throughout on one side of 8.5 × 11-in. white paper, with 1-in. margins on all sides. All pages should be numbered consecutively.

¹ An extended Instructions to Authors is published in the January issue of *Archives of Biochemistry and Biophysics*. Reprints are available from the Editorial Office upon request. Authors should consult the extended Instructions for details on nomenclature, IUPAC-IUB rules and recommendations, and accepted abbreviations.

Subject Areas. Authors should specify on page 1 of the manuscript the Subject Area of the article submitted. See the back cover for the listing of the Subject Areas.

Page 1 should contain the article title, author(s), affiliation(s), a short running title (abbreviated form of title) of less than 65 characters including letters and spaces, the appropriate subject category for listing in the Table of Contents, suggestions for index list entries, and the name and complete mailing address (and telephone number if possible) of the person to whom correspondence should be sent.

Page 2 should contain a short abstract of 50–250 words.

Editorial style should conform to the *Handbook for Authors* (American Chemical Society).

Footnotes to the text should be identified by superscript Arabic numerals and should be typed double-spaced on a separate sheet; footnotes to tables should be identified by superscript lowercase italic letters (*^{a,b}*, etc.) and placed at the bottom of the table.

Tables should be numbered with Roman numerals and cited consecutively in the text. Each table should be titled and typed double-spaced on a separate sheet. Units must be clearly indicated for each of the entries in the table.

Authors can submit complex tables and mathematical material as camera-ready copy. In this way, they are spared multiple, tedious proofreadings and the chance of error is reduced. Tables submitted as camera-ready copy should be typed single-spaced whenever possible and preferably submitted as 5 × 7-in. glossy prints.

Figures should be cited consecutively in the text by Arabic numerals. Legends should be typed double-spaced on a separate sheet. All figures and illustrations are to be submitted in such form as to permit photographic reproduction without retouching or redrawing. They should be planned to fit the proportion of the printed page (5.5 × 8 in.; column width, 2.6 in.) and submitted no larger than 8.5 × 11 in. Lettering on drawings should be of professional quality or generated by *high-resolution* computer graphics and should be large enough (10–12 points) to take a reduction of 50–60%. Drawings should be made with India ink on tracing linen, smooth surface white paper, or Bristol board. Alternatively, *high-quality* computer graphics may be acceptable. Graph paper, if used, should be ruled in blue. Glossy prints of figures properly prepared are acceptable. Illustrations in color can be accepted only if the authors defray the cost.

References should be cited in the text by an Arabic numeral in parentheses and listed at the end of the paper in numerical order typed double-spaced on a separate sheet. Abbreviations of journal titles should conform to those of *Chemical Abstracts Service Source Index*, 1985. Please note the following examples.

1. KISS, Z., DELI, E., AND KUO, J. F. (1988) *Arch. Biochem. Biophys.* **265**, 38–42.
2. STEIN, W. D. (1986) *Transport and Diffusion across Cell Membranes*, Academic Press, San Diego, CA.
3. MAGNANI, J. L., SPITALNIK, S. L., AND GINSBURG, V. (1987) in *Methods in Enzymology* (Ginsburg, V., Ed.), Vol. 138, pp. 195–207, Academic Press, San Diego, CA.

Miniprint supplements are an effective way of presenting supportive data. They are printed from plates made by photographic reduction from typed pages provided by the author. Types of data that have been published as miniprint supplements include analyses relevant to studies of amino acid or polynucleotide sequences, details of chemical syntheses, preparation of enzymes, extended statistical or mathematical discussions, and X-ray diffraction data. The miniprint supplement is published in the journal, immediately following the parent paper, and is included in the reprints. Since the miniprint supplement is produced from camera-ready copy supplied by the authors with no redaction or editorial changes it is important that the copy be letter perfect and conform to the style of the journal. *Authors will not be permitted to make changes to the miniprint supplement at the proof stage. Any changes necessary in the proof must be made as a typeset "Note added in proof."*

Proofs will be sent to the author, with a reprint order form. Authors will be charged for extensive alterations.

Reprints. Fifty reprints of each article will be provided free of charge. Additional reprints may be purchased.

ANNOUNCEMENT

Walter J. Johnson Prize

For the Encouragement of Postdoctoral Research

The Board of Directors of Harcourt Brace Jovanovich, Inc., has established the Walter J. Johnson Prize to be awarded to a deserving individual or individuals having recently completed doctoral studies in the life sciences. The award was established in recognition of Mr. Walter J. Johnson, founder of Academic Press (a division of Harcourt Brace Jovanovich), who has engaged in a lifelong dedication to excellence in scientific publishing. The editorial administrators of three Academic Press journals have been vested with the authority to select the recipients of the Walter J. Johnson Annual Prize: *Archives of Biochemistry and Biophysics*, *Experimental Cell Research*, and *Journal of Molecular Biology*.

A prize of \$10,000 will be awarded by the Editorial Committee of *Archives of Biochemistry and Biophysics* every three years (next in the spring of 1990) to one or more individuals who have recently completed their doctoral studies in the life sciences.

The following guidelines will apply in the selection of recipients of this award:

1. The nomination should be based on the quality of a paper published in *Archives of Biochemistry and Biophysics* during the preceding three years. The nominee must have been the first-listed author.
2. The nominee should have received his/her Ph.D. or M.D. no more than five years prior to the publication date of the article.
3. The Prize may be awarded to one nominee or divided among several nominees.
4. Nominations should be made in writing to the Chairman of the Editorial Committee by a member of the Editorial Board of *Archives of Biochemistry and Biophysics*. Nominations must be submitted by December 31, 1989.
5. Selection will be made by a Committee of Executive Editors of *Archives of Biochemistry and Biophysics*.
6. Awards will be presented next in the spring of 1990 during the dinner meeting of the Editorial Board of *Archives of Biochemistry and Biophysics* held during the Annual Meeting of the ASBMB.

